Title (en)

DIFFERENTIAL FEEDBACK SCHEME FOR CLOSED-LOOP MIMO BEAMFORMING

Title (de)

DIFFERENTIAL-FEEDBACKSCHEMA FÜR MIMO-STRAHLENFORMUNG IN EINEM GESCHLOSSENEN REGELKREIS

Title (fr)

SCHÉMA DE RÉTROACTION DIFFÉRENTIEL POUR UNE FORMATION DE FAISCEAUX MIMO EN BOUCLE FERMÉE

Publication

EP 2425544 A1 20120307 (EN)

Application

EP 10770386 A 20100429

Priority

- US 2010033061 W 20100429
- US 17393909 P 20090429
- US 77062010 A 20100429

Abstract (en)

[origin: WO2010127183A1] A first NxM codebook of a first rank M may be used to generate a second Nx(N-M) codebook of a second rank (N-M). This second codebook is both orthogonal and complementary to the first codebook. In practice, this may reduce storage requirements in closed-loop MIMO beamforming, because the second codebook may be dynamically generated as needed by a base station and/or a mobile station. In some cases, a higher rank beamforming matrix or precoding matrix may be formed from a lower rank (e.g., one or two) beamforming matrix or precoding matrix. Also, a novel way to generate the rotation matrix is disclosed.

IPC 8 full level

H04B 7/04 (2006.01); **H04B 7/06** (2006.01); **H04L 25/03** (2006.01)

CPC (source: EP KR US)

H04B 7/0486 (2013.01 - EP KR US); **H04B 7/0617** (2013.01 - KR); **H04B 7/0639** (2013.01 - KR); **H04B 7/0641** (2013.01 - EP KR US); **H04L 25/03923** (2013.01 - EP US); H04B 7/0639 (2013.01 - EP US); H04L 25/03929 (2013.01 - EP US)

Designated contracting state (EPC)

AT BE BG CH CY CZ DE DK EE ES FI FR GB GR HR HU IE IS IT LI LT LU LV MC MK MT NL NO PL PT RO SE SI SK SM TR

DOCDB simple family (publication)

WO 2010127183 A1 20101104; CN 102460996 A 20120516; CN 102460996 B 20140820; EP 2425544 A1 20120307; EP 2425544 A4 20150311; EP 2425544 B1 20170802; ES 2640259 T3 20171102; HU E037041 T2 20180828; JP 2012525796 A 20121022; JP 5275514 B2 20130828; KR 101324395 B1 20131101; KR 20120010271 A 20120202; US 2011064158 A1 20110317; US 8340207 B2 20121225

DOCDB simple family (application)

US 2010033061 W 20100429; CN 201080030346 A 20100429; EP 10770386 A 20100429; ES 10770386 T 20100429; HU E10770386 A 20100429; JP 2012508754 A 20100429; KR 20117028414 A 20100429; US 77062010 A 20100429